ABSTRACT OF THE DISCLOSURE

A selector sets respective phases of pulse driving signals in reverse when a proportion signal or integration signal does not exceed a threshold. Shifting the respective phases of the pulse driving signals from each other lowers the ripple voltage. When the load current increases drastically, the output voltage Vo tends to decrease remarkably because of the shortage of capacity in the power supply. In this case, when the proportion signal or integration signal exceeds its corresponding threshold, a phase control unit causes the pulse driving signals to synchronize their phases, i.e., the selector supplies the same ramp wave to the comparators, so that respective output voltages supplied from the DC voltage converter circuits attain the same phase, thereby restraining the output voltage supplied to the load from decreasing remarkably.